What is claimed is:

1. A method for measurement and identification of base stations transmitting on the same channel, thus interfering with each other, in a GSM cellular wireless network wherein a plurality of base stations each transmit a 51-multiframe signal including a plurality of FCCH bursts, a plurality of SCH bursts and a plurality of BCCH bursts, the method comprising:

a) receiving signals within the intended coverage zone of the GSM cellular wireless network;

b) correlating the received signals with an FCCH burst waveform signal to identify a set of FCCH correlation peaks therein;

c) for each given FCCH correlation peak within said set of FCCH correlation peaks, generating data representing time-of-arrival and power level for the given FCCH correlation peak, and adding said data to a data file;

d) for at least one given FCCH correlation peak within said set of FCCH correlation peaks, scheduling SCH burst decoding operations for a time window derived from the time-of-arrival of the given FCCH correlation peak;

e) performing SCH burst detection and decoding operations on said signals during each time window scheduled in d) to thereby identify BSIC data and RFN data encoded in a given SCH burst detected within said signal, and adding time-of-arrival data, said BSIC data and a frame number data based on said RFN data for the given SCH burst to the data file; and

f) for each given SCH burst successfully detected and decoded in e), identifying a plurality of time-of-arrival windows within the 51-multiframe based upon the time-of-arrival data and frame number data of the given SCH burst, and updating the data file to associate the BSIC data and frame number data for the given SCH burst with the power level data for each FCCH correlation peak whose time-of-arrival falls within said plurality of time-of-arrival windows of the 51-multiframe.

2. A method according to claim 1, further comprising:

g) for each given SCH training sequence successfully detected in e), updating the time-of-arrival data for the preceding FCCH burst based upon the time-of-arrival of the given SCH burst.

3. A method according to claim 2, further comprising:

h) for each given SCH burst successfully detected and decoded in e), scheduling BCCH burst detection and decoding operations for a time window derived from the time-of-arrival data and frame number data of the given SCH burst;

i) performing BCCH burst detection and decoding operations on said signals during the time window scheduled in h) to thereby identify BCCH information encoded in a set of BCCH bursts detected within said signal, and adding said BCCH information to the data file; and

j) updating the data file to associate the BCCH information identified in i) with data components for the given SCH burst from which the BCCH information is derived.

4. A method according to claim 3, wherein:

the operations in f) update the data file to associate the BCCH information corresponding to the given SCH burst with the power level data for each FCCH correlation peak whose time-of-arrival falls within said plurality of time-of-arrival windows of the 51-multiframe.

5. A method according to claim 4, wherein:

said BCCH information includes a Cell Identifier (CellId), a Location Area Code (LAC), Mobile Network Code (MNC) and Mobile Country Code (MCC) assigned to a given base station transmitting the 51-multiframe signal.

6. A method according to claim 4, wherein:

said plurality of time-of-arrival windows comprise 5 time windows within any 51-multiframe.

7. A method according to claim 1, wherein:

said plurality of time-of-arrival windows comprise 5 time windows within the any 51-multiframe.

8. A method according to claim 1, wherein:

time-of-arrival data for a given SCH burst is normalized to the preceding FCCH burst frame.

9. A method according to claim 1, wherein:

time-of-arrival data for respective FCCH bursts and SCH bursts in addition to said plurality of time-of-arrival windows are defined by a timing reference signal with a period of one or multiple GSM 51-multiframes.

10. A method according to claim 9, wherein

said timing reference signal is generated internally and synchronized to a GPS signal.

11. A method according to claim 3, wherein:

the operations of a) through e) and g), h), and i) are performed as part of a real-time data acquisition and analysis phase, and the operations of f) and j) are performed as part of an offline data analysis phase.

12. A method according to claim 1, wherein:

data generated from the operations of a) through e) and i) is accessed for post-processing analysis.

13. A method according to claim 12, wherein:

said post-processing analysis performs at least one of network optimizations, frequency planning, co-channel interference analysis, and adjacent-channel interference analysis.

14. A method according to claim 1, wherein:

the data representing power level for the given FCCH correlation peak is a measure of absolute power and relative power of the given FCCH correlation peak,

15. A method according to claim 1, wherein:

the operations in d) are performed for each FCCH correlation peak that crosses a certain relative power threshold.

16. A method according to claim 1, wherein:

the time window of d) encompasses one frame after the time-of-arrival of the given FCCH correlation peak.

17. A method according to claim 3, wherein:

the operations of a) through j) are performed as part of a real-time data acquisition and analysis phase.

18. A method according to claim 17, further comprising:

displaying in real-time power level data for each FCCH correlation peak identified in b).

19. A method according to claim 18, further comprising:

updating the display in real-time to display at least one of BSIC data and BCCH information detected and associated with a given FCCH correlation peak along with said power level data for the given correlation peak.

20. A method according to claim 19, further comprising:

updating the display in real-time to display power level data for each detected FCCH correlation peak in accordance with measured changes in said power level data over time.

21. A data analysis tool that measures and identifies base stations transmitting on the same channel, thus interfering with each other, in a GSM cellular wireless network wherein a plurality of base stations each transmit a 51-multiframe signal including a plurality of FCCH bursts, a plurality of SCH bursts and a plurality of BCCH bursts, the data analysis tool comprising:

a) means for receiving signals within the intended coverage zone of the GSM cellular wireless network;

b) means for correlating the received signals with an FCCH burst waveform signal to identify a set of FCCH correlation peaks therein;

c) means for generating data representing time-of-arrival and power level for each given FCCH correlation peak within said set of FCCH correlation peaks, and adding said data to a data file;

d) means for scheduling SCH burst decoding operations for a time window derived from the time-of-arrival for at least one given FCCH correlation peak within said set of FCCH correlation peaks;

e) means for performing SCH burst detection and decoding operations on said signals during each time window scheduled by d) to thereby identify BSIC data and RFN data encoded in a given SCH burst detected within said signal, and for adding time-of-arrival data, said BSIC data and a frame number data based upon said RFN data for the given SCH burst to the data file; and

f) means for identifying a plurality of time-of-arrival windows within the 51-multiframe of each given SCH burst successfully detected and decoded by e), and for updating the data file to associate the BSIC data with the power level data for each FCCH correlation peak whose time-of-arrival falls within said plurality of time-of-arrival windows within the 51-multiframe of the given SCH burst.

22. A data analysis tool according to claim 21, further comprising:

g) means for updating the time-of-arrival data for a given FCCH burst based upon time-of-arrival of a training sequence of a given SCH burst detected by e).

23. A data analysis tool according to claim 22, further comprising:

h) means for scheduling BCCH burst detection and decoding operations for a time window derived from the time-of-arrival and frame number for each given SCH burst successfully detected and decoded by e);

i) means for performing BCCH burst detection and decoding operations on said signals during the time window scheduled by h) to thereby identify BCCH information encoded in a set of BCCH bursts detected within said signal, and adding said BCCH information to the data file; and

j) means for updating the data file to associate the BCCH information identified by i) with data components for the given SCH burst from which the BCCH information is derived.

24. A data analysis tool according to claim 23, wherein:

the means f) is adapted to update the data file to associate the BCCH information corresponding to the given SCH burst with the time-of-arrival data for each FCCH correlation peak whose time-of-arrival falls within said plurality of time-of-arrival windows within the 51-multiframe of the given SCH burst.

25. A data analysis tool according to claim 24, wherein:

said BCCH information includes a Cell Identifier (CellId), Location Area Code (LAC), Mobile Network Code (MNC) and Mobile Country Code (MCC) assigned to a given base station transmitting the 51-multiframe signal.

26. A data analysis tool according to claim 24, wherein:

said plurality of time-of-arrival windows comprise 5 time windows within any 51-multiframe.

27. A data analysis tool according to claim 21, wherein:

said plurality of time-of-arrival windows comprise 5 time windows within any 51-multiframe.

28. A data analysis tool according to claim 21, wherein:

time-of-arrival data for a given SCH burst is normalized to the preceding FCCH burst frame.

29. A data analysis tool according to claim 21, wherein:

time-of-arrival data for respective FCCH bursts and SCH bursts in addition to said plurality of time-of-arrival windows are defined by a timing reference signal with a period of one or multiple GSM 51-multiframes.

30. A data analysis tool according to claim 29, further comprising:

a GPS unit that generates a GPS signal; and

wherein said timing reference signal is synchronized to said GPS signal.

31. A data analysis tool according to claim 30, further comprising:

an oscillator circuit for generating a timing signal that is synchronized to said GPS signal; and

wherein said timing reference signal is derived from said timing signal generated by said oscillator circuit.

32. A data analysis tool according to claim 23, wherein:

the means a) through e) and g), h), and i) perform real-time data acquisition and analysis operations, and the means f) and j) performs offline data analysis operations.

33. A data analysis tool according to claim 21, wherein:

data generated from by means a) through e) and i) is stored for subsequent access for post-processing analysis.

34. A data analysis tool according to claim 33, wherein:

said post-processing analysis performs at least one of network optimizations, frequency planning, co-channel interference analysis, and adjacent-channel interference analysis.

35. A data analysis tool according to claim 21, wherein:

the data representing power level for the given FCCH correlation peak is a measure of absolute power and relative power of the given FCCH correlation peak,

36. A data analysis tool according to claim 21, wherein:

the means d) performs operations for each FCCH correlation peak that crosses a certain relative power threshold.

37. A data analysis tool according to claim 21, wherein:

the time window of d) encompasses one frame after the time-of-arrival of the given FCCH correlation peak.

38. A data analysis tool according to claim 23, wherein:

the means a) through j) perform real-time data acquisition and analysis operations.

39. A data analysis tool according to claim 38, further comprising:

means for displaying in real-time power level data for each FCCH correlation peak identified by b).

40. A data analysis tool according to claim 39, further comprising:

means for updating the display in real-time to display at least one of BSIC data and BCCH information detected and associated with a given FCCH correlation peak along with said power level data for the given correlation peak.

41. A data analysis tool according to claim 40, further comprising:

means for updating the display in real-time to display power level data for each detected FCCH correlation peak in accordance with measured changes in said power level data over time.

42. A method for measurement and identification of base stations transmitting on the same channel, thus interfering with each other, in a cellular wireless network wherein downstream signals from base stations to users are communicated in frames and include fixed signal waveforms and information that identifies base stations, the method comprising:

a) receiving signals within the intended coverage zone of the cellular wireless network;

b) detecting known signal waveforms in the received signals;

c) for each detected signal waveform, logging time-of-arrival and power level data for the detected signal waveform to a data file;

d) detecting and decoding data that identifies a base station in the cellular wireless network; and

e) identifying a plurality of time-of-arrival windows based on data generated in d), and updating the data file to associate the data generated in d) with power level data of detected signal waveforms whose time-of-arrival falls within said plurality of time-of-arrival windows.

43. A method according to claim 42, further comprising:

f) detecting and decoding additional information that uniquely identifies the base station, and adding said additional information to the data file; and

g) updating the data file to associate the additional information identified in f) with data components for corresponding detected signal waveforms.

44. A method according to claim 42, wherein:

the power level data for the detected signal waveform is a measure of absolute power and relative power of the detected signal waveform.

45. A method according to claim 42, wherein:

the detected signal waveform comprises one of a synchronization waveform and a training sequence waveform transmitted by a base station.

46. A method according to claim 42, wherein

time of arrival is referenced to a timing reference signal generated internally and synchronized to a GPS signal; sad timing referenced signal having period of one of multiple frames.

47. A method according to claim 43, wherein:

the operations of a) through d) and f) are performed as part of a real-time data acquisition and analysis phase, and the operations of e) and g) are performed as part of an offline data analysis phase.

48. A method according to claim 42, wherein:

data generated from the operations of a) through f) is accessed for post-processing analysis.

49. A method according to claim 48, wherein:

said post-processing analysis performs at least one of network optimizations, frequency planning, co-channel interference analysis, and adjacent-channel interference analysis.

50. A method according to claim 43, wherein:

the operations of a) through g) are performed as part of a real-time data acquisition and analysis phase.

51. A method according to claim 50, further comprising:

displaying in real-time power level data for each signal waveform detected in b).

52. A method according to claim 51, further comprising:

updating the display in real-time to display base station identification data detected and associated with a given signal waveform along with said power level data for the given signal waveform.

53. A method according to claim 52, further comprising:

updating the display in real-time to display power level data for each detected signal waveform in accordance with measured changes in said power level data over time.